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A METHOD OF PROVIDING SYNCHRONOUS TRANSPORT OF PACKETS BETWEEN  
ASYNCHRONOUS NETWORK NODES IN A FRAME-BASED COMMUNICATIONS  
5 NETWORK

ABSTRACT OF THE DISCLOSURE

A method of providing synchronous transport of packets  
between asynchronous network nodes, each asynchronous network  
10 node having a local clock and transmitting and receiving packets  
to and from the asynchronous network according to an asynchronous  
network media access protocol. An asynchronous network node  
capable of transmitting and receiving packets on the asynchronous  
network is designated as a master node. Each non-master  
15 asynchronous network node which desires to synchronously  
transport packets across the asynchronous network as a slave node  
and each slave node is designated as a slave node. A master node  
clock of the master node is synchronized with a slave node clock  
of each slave node. A best arrival time for the reception by the  
20 master node of each particular packet transmitted by each  
particular slave node is determined at the master node. Best  
arrival times for packets transmitted from slave nodes to the  
master node are communicated from the master node to the slave  
nodes. Best packet assembly times for packets to be transmitted  
25 by the particular slave node to the master node in the future in  
order for the packets to be received by the master node at future  
master clock referenced best arrival times. Each slave node clock  
is continuously corrected compared with the master node clock to  
smooth slave clock error to an average of zero compared with the  
30 master clock as a reference in response to a message from the  
master node. Packets for transmission at slave nodes according  
to determined future best packet assembly time information.  
Packets at slave nodes are then transmitted according to the  
determined future best packet assembly time information.

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